42. (Twice Amended) The method according to claim 40 wherein at least one HIV protease inhibitor is saquinavir, ritonavir, indinavir, nelfinavir, amprenavir, KNI-272, lasinavir, or lopinavir.

46. (Amended) A method of inhibiting human immunodeficiency virus (HIV) replication comprising administering to a patient in need thereof, a combination of at least one compound exhibiting α_1-antitrypsin (AAT) or AAT-like activity and one or more compounds selected from a group consisting of HIV reverse transcriptase inhibitors and HIV protease inhibitors, for a time and under conditions effective to inhibit HIV replication, wherein said compound exhibiting AAT-like activity is a natural or man-made molecule that, upon administration to a patient in need thereof, inhibits serine protease, and with the exception that the compound exhibiting α_1-antitrypsin activity is not serine leukocyte protease inhibitor.

Please enter the following new claims:

47. The method of claim 40, wherein said first compound is a man-made molecule.

48. The method of claim 40, wherein said first compound has a molecular weight less than 20,000.

49. The method of claim 40 wherein the first compound comprises a peptide including at least five amino acid residues comprising the C-terminal sequences of mammalian AAT, analogues of such a peptide, or homologues thereof.

50. The method of claim 40 wherein the first compound comprises a peptide selected from FVFAM (SEQUENCE ID NO. 2), FVALM (SEQUENCE ID NO. 3), FVFLA (SEQUENCE ID NO. 4), FLVFI (SEQUENCE ID NO. 5), FLMII (SEQUENCE ID NO. 6), FLFVL (SEQUENCE ID NO. 7), FLFVV (SEQUENCE ID NO. 8), FLFLI (SEQUENCE ID NO. 9), FLFFI (SEQUENCE ID NO. 10), FLMFI (SEQUENCE ID NO. 11), FMLLI (SEQUENCE ID NO. 12), FIIMI (SEQUENCE ID NO. 13), FLFCI (SEQUENCE ID NO. 14), FLFAV (SEQUENCE ID NO. 15), FAFLM (SEQUENCE ID NO. 17), AVFLM (SEQUENCE ID NO. 18), or mixtures thereof.

51. The method of claim 40 wherein the first compound is represented by a peptide of a general formula (I): I-A-B-C-D-E-F-G-H-II, wherein I is Cys or absent; A is Ala, Gly,